IN THE CLAIMS:

1. (Currently Amended): An apparatus for manipulating a vehicle body panel, the apparatus being mounted to an arm of a robot for moving a vehicle body panel to a required mounting position of a vehicle body, the apparatus comprising:

a base plate connected to an arm of a robot;

left and right screw rods rotatably mounted below the base plate by bearing blocks, each of the screw rods having a driven helical gear at an interior end thereof;

a motor disposed central to and above the base plate and having a rotating shaft of which an end has a driving helical gear engaged with both of the driven helical gears of the left and right screw rods;

clamping means for clamping the vehicle body panel by laterally moving with respect to the base plate, and for moving the vehicle body panel up and down, ~~the clamping means being mounted to each of the left and right screw rods by a screw block~~ wherein the clamping means comprises:

a guide rail mounted by a screw block to each of the left and right screw rods;

a clamp mounted to the guide rail such that the clamp can slide up and down with respect to the guide rail; and

an up/down cylinder for moving the clamp up and down, the up/down cylinder being disposed to a rear end of the guide rail and being connected to the clamp through an up/down piston;

a suction unit for holding the vehicle body panel, the suction unit being adjacent and interior to the clamping unit and also being below the base plate; and

a gap adjusting unit for adjusting a gap between the vehicle body and the vehicle body panel, the gap adjusting unit being adjacent and interior to the clamping means.

2. (Previously Canceled).

3. (Original): The apparatus of claim 1, wherein the motor is a servo motor whose revolution speed is controllable.

4. (Canceled).

5. (Currently Amended): The apparatus of claim [[4]] 1, wherein the clamp has an inner side that is fork-shaped such that the vehicle body panel is inserted thereinto.

6. (Previously Presented): The apparatus of claim 1, wherein the suction unit comprises:

a mounting bracket mounted downward at the base plate; and

a suction cup for holding a surface of the vehicle body panel, the suction cup being installed at an end of the mounting bracket.

7. (Previously Presented): The apparatus of claim 1, wherein the gap adjusting unit comprises:

an adjusting cylinder mounted downward from the base plate; and

an adjusting jig mounted to an end of an adjusting piston of the adjusting cylinder such that the gap between the vehicle body and the vehicle body panel is adjusted by the adjusting jig.

8. (Original): The apparatus of claim 7, wherein the adjusting jig comprises an inclined surface for adjusting a gap between the vehicle body and the vehicle body panel by being inserted therebetween.

9. (Previously Presented): An apparatus for manipulating a vehicle body panel, the apparatus being mounted to an arm of a robot for moving a vehicle body panel to a required mounting position of a vehicle body, the apparatus comprising:

a base plate connected to an arm of a robot;

left and right screw rods rotatably mounted below the base plate by bearing blocks, each of the screw rods having a driven helical gear at an interior end thereof;

a motor disposed central to and above the base plate and having a rotating shaft of which an end has a driving helical gear engaged with both of the driven helical gears of the left and right screw rods; and

a clamping unit mounted to each of the left and right screw rods by a screw block, wherein the clamping unit comprises a guide rail mounted by the screw block to each of the left and right screw rods, a clamp mounted to the guide rail such that the clamp can slide up and down with respect to the guide rail, and an up/down cylinder for moving the clamp up and down, the up/down cylinder being disposed to a rear end of the guide rail and being

connected to the clamp through an up/down piston such that the vehicle body panel is clamped by laterally moving with respect to the base plate and is moved up and down.

10. (Previously Presented): The apparatus of claim 9, wherein the clamp has an inner side that is fork-shaped such that the vehicle body panel is inserted thereinto.